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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/730,823

12/07/2000

Noriaki Kudo

108062

8607

7590

12/12/2003

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EXAMINER

WOODWARD, ANA LUCRECIA

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/730,823	Applicant(s) KUDO ET AL.	
	Examiner Ana L. Woodward	Art Unit 1711	

-- Th MAILING DATE of this communication app ars on th cover sh et with th correspondence address --  
**Period for Reply** three

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 9/22/03
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-10 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6,346,598 (Hashimoto et al) in view of U.S. 4,496,715 (Sattler) as per reasons of record.

The applicant claims a flexible printed board having an imidized polyimide layer on a metal foil, where the polyimide is synthesized from a reaction mixture containing an aromatic diamine, an aromatic acid dianhydride, a solvent, and an imidazolyl-diaminoazine.

Hashimoto et al. disclose a thermosetting polyimide composition that is used in a flexible printed board (column 15, lines 50-65) where the substrate is a metal foil and the polyimide is imidized after the application to the foil (see examples 52-66). The polyimide is synthesized from a mixture containing an aromatic diamine (column 9, lines 34-65), an aromatic acid dianhydride (column 8, line 59 to column 9, line 5), and a solvent (column 10, lines 28-40). The mixture further contains a reaction promoter that includes imidazolyl-diaminoazines (column 13, lines 43-46).

In essence, the disclosure of Hashimoto et al differs from the presently claimed invention in that it does not expressly disclose the particular species of imidazolyl-diaminoazines and their contents as presently claimed. With respect to the first difference, it is maintained that some of

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the presently claimed species of imidazolyl-diaminoazines are chemically homologous to those set forth by Hashimoto et al because they differ only in one methylene group. These species, therefore, would be considered to be functionally equivalent and obvious to those set forth by patentees. Accordingly, absent evidence of unusual or unexpected results, for using one homologous species over the other, no patentability can be seen in the presently claimed subject matter.

As to the second difference, it is well known in the art to use reaction promoters in amounts within the range claimed by applicant. For example, Sattler discloses such a relationship (see the examples), where IPT is used as a reaction promoter in a polyimide composition. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the reaction promoter disclosed by Hashimoto et al. in an amount within the range claimed by applicant with the reasonable expectation of success. This is because Hashimoto et al, by being silent relative to the content of reaction promoter, implicitly suggest that any conventional amount of promoter can be effectively used. Accordingly, absent evidence of unusual or unexpected results, no patentability can be seen in the presently claimed subject matter.

### ***Election/Restrictions***

3. Claims 1-6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

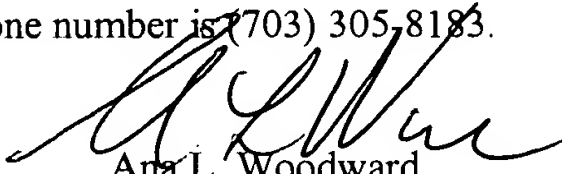
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***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana L. Woodward whose telephone number is (571) 272-1082. The examiner can normally be reached on Monday-Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8183.

  
Ana L. Woodward  
Examiner  
Art Unit 1711

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